Notes from the 5/10/05 MI BPM Requirements Meeting
Stephen Wolbers
These notes can be found in Beams docDB #1526.

Marv Olson: MI Service Building Survey

   - Marv gave a nice summary of the space requirements and
availability in the MI service buildings. Marv's slides can be found in
Beams docDB #1822.

   - The number of Echotek boards needed per MI house is :
      MI10: 9, MI20: 9, MI30: 10, MI40: 9, MI50: 9, MI60S: 5, MI60N: 5

   - The space required for each VME subrack + analog front end is
about 36.75 inches. Each BLM system needs about 31.5 inches.

   - Most racks in the buildings are full. However, there are places
where enough space can be found for a new system to commission. There
was a long discussion about how to accomplish this commissioning and
whether some BPMs can be offline during the commissioning period.

   - Dave Capista was given the task of coming up with a list of all MI
BPMs that are really critical to operations so we can come up with a
plan for commissioning.

   - It looks like MI20 and MI60S are the best candidates for parallel
installations (old and new) for first commissioning.

Manfred Wendt: Large aperture BPM

   - Manfred showed the results of simulation of the wide aperture BPM with the
electrodes at 0/90 degrees and as expected from the measurements Bob showed last week
the response is much more linear than the 45 degree orientation in the vertical and
horizontal coordinates.

   - Manfred's results have been written up in a very nice and colorful note Beams docDB
#1824.

   - Further discussion indicated that the recommendation is to build these new magnets
with BPMs at 0/90 degrees as there seems to be no mechanical reason not to. Alberto
will discuss with Ioanis how to bless this decision and make it "official".

Peter Preito and Charlie Briegel: Echotek results

   - Peter and Charlie have been working on testing the Echotek setup where 4 Graychip
channels are used for each input channel to do 53 MHz wideband, 53 MHz narrowband,

2.5 MHz wideband and 2.5 MHz narrowband processing.

  - The system was setup to do narrowband (closed orbit) continuously, to switch to wideband (TBT), take data, and then switch back. Peter showed results of the Echotek output on the test stand that used an input signal that is a mix of 2.5 Mhz and 53 MHz. The results look very promising for this technique.

  - The time to switch was claimed to be pretty fast, on the order of ms. There was a discussion about how fast one can switch given that it takes time to readout TBT data. It might be possible to overlap TBT readout with CO data taking. In all cases the system has to keep track of what is in memory in the Echotek, when one can reset the system, how long to keep various measurements in various parts of the system, etc. This is pretty important in the design of the data acquisition system and its interface to the console applications or any other users of the data.

  - The next step is to try these tests in the accelerator. The arrangements should be made as soon as possible.

Bill Haynes: Timing Board

  - Bill showed some results comparing the Conner-Winfield PLL with the FPGA on the timing board.

  - Bill's plots can be found in docDB #1810 (I added a file to Bill's presentation from last week). Overall the FPGA looks quite good and is able to follow a changing input frequency (within some limits).

AOB:

  - We still need a discussion about the RF and other clock signal availability between cycles.

  - Next week Bob and Steve will be at PAC05 but most everyone else will be at Fermilab and should meet to continue to nail down requirements for the system.